

REMARKS

Applicant appreciates the time taken by the Examiner to review Applicant's present application. This application has been carefully reviewed in light of the Official Action mailed January 23, 2008. Claims 10 and 27 have been canceled. Accordingly, Claim 1-9, 11-26, and 28-33 remain pending. Applicant respectfully requests reconsideration and favorable action in this case.

Rejections under 35 U.S.C. § 101

Claims 1-33 stand rejected under 35 U.S.C. § 101 for failing to produce a tangible result. In light of the amendment submitted herewith, Applicants submit that the rejection has been rendered moot.

Claims 12-22 and 28-32 stand rejected under 35 U.S.C. § 101 for being directed to non-statutory subject matter, machine readable media. Applicant respectfully submits that when a computer program is recited in conjunction with a physical structure, such as a computer memory, USPTO personnel should treat the claim as a product claim (see M.P.E.P. 2106.01). Accordingly, Applicants submit that Claims 12-22 and 28-32 recite patentable subject matter.

Accordingly, withdrawal of the rejections under 35 U.S.C. § 101 is respectfully requested.

Rejections under 35 U.S.C. § 112

Claims 1-33 stand rejected under 35 U.S.C. § 112, first paragraph as requiring undue experimentation. More specifically, with regard to Claim 33, the Examiner states that customer segmentation, marketing, and behavior forecasting are complex arts. While many different types of techniques are known and available to one of ordinary skill in the art, it would not be clear how to use the Applicant's invention without undue experimentation because the specification provides no guidance as to how to choose a relevant customer segmentation, marketing, and behavior forecasting model. See page 4 of the Office Action.

The Applicant respectfully submits that the specification must teach those skilled in the art how to make and use embodiments of the claimed invention without "undue experimentation." Nevertheless, not everything necessary to practice the invention need be disclosed. In fact, what is well-known is best omitted. All that is necessary is that one skilled in the art be able to practice the claimed invention, given the level of knowledge and skill in the art. See M.P.E.P. 2164.08.

The Examiner states many different types of (customer segmentation, marketing, and behavior forecasting) techniques are known and available to one of ordinary skill in the art. Furthermore, the Application teaches that an "aspect of the selection algorithm is that dynamically updated response distributions are used in the action selection for learning and reduction of uncertainty, not that any specific optimization algorithm is necessarily utilized." See paragraph 0038. Therefore, Applicants respectfully submit that, given the level of knowledge and skill in the art discussed above, those skilled in the art can practice the claimed invention based on the disclosure as originally filed without undue experimentation.

The Examiner also states that customer segmentation, marketing, and behavior forecasting are not predictable arts in that they deal with 'soft' skills (intuition, luck, etc.) and will not always provide the same result because they deal with complex, unpredictable, human emotions and buying habits. Therefore, undue experimentation would result from one of ordinary skill in the art trying to make and/or use the claimed invention. See pages 4-5 of the Office Action.

Applicants respectfully submit that the amount of guidance or direction needed to enable the invention is inversely related to the amount of knowledge in the state of the art as well as the predictability in the art. See M.P.E.P. 2164.03. However, it is the predictability of the claimed invention, not the predictability of the matter upon which the invention operates that is at issue under M.P.E.P. 2164.03. Applicants concede that human buying habits can be complex and unpredictable. Indeed, the Application states that "uncertainty may arise from the fact that customer response is imprecise (i.e., represented by distributions) or that other business factors are changing on an ongoing basis..." See paragraph 0041. This particular unpredictability, however, relates to the customer response, not embodiments of the claimed invention. Accordingly, the unpredictability referred to by the Examiner is associated with the matter upon which the claimed invention operates not with the claimed invention. Thus, no undue experimentation is needed to practice embodiments of the claimed invention.

Furthermore, the Applicants also respectfully submit that the fact that experimentation may be complex does not necessarily make it undue, if the art typically engages in such experimentation. See M.P.E.P. 2164.01. The Examiner states on page 11 of the Office Action that the updating of the marketing plan selection method based upon the actual, observed behavior of customers is known to allow for more accurate prediction in the future as models become closer to reality based upon trial and error. Thus, the art typically engages in trial and error experimentation.

Accordingly, to the extent that some experimentation might be associated with embodiments of the claimed invention it is not undue. Withdrawal of the rejection of Claims 1-33 under 35 U.S.C. § 112, first paragraph as requiring undue experimentation is therefore respectfully requested.

Claims 8-10, 19-21, 26-27 and 31-32 stand rejected under 35 U.S.C. § 112, second paragraph. With respect to the rejection of Claim 9, Applicants respectfully submit that once formulated, a forecast can be updated. In view of the foregoing and the amendment submitted herewith, Applicants submit that the rejection of Claims 8-10, 19-21, 26-27 and 31-32 under 35 U.S.C. § 112, second paragraph has been rendered moot. Therefore, Applicants therefore respectfully request the rejection be withdrawn.

Rejections under 35 U.S.C. § 102

Claims 1-33 stand rejected under 35 U.S.C. § 102 (a and e) as anticipated by U.S. Publication No. 2002/0169654 ("Santos"). With regard to the rejection of Claim 1, the Examiner states that Santos discloses: matching a customer profile to a profile (see ¶ 9, noting customer segmentation is used); selecting an action from a set of actions associated with the profile using a first algorithm (see ¶ 1, noting that a marketing action set is considered and is applied to a customer); and updating the first algorithm based on a response forecast (see ¶ 16, noting the probability that a customer will buy is a forecast and used as a basis for selecting an action).

Claim 1 recites: A method for the optimization of a process, comprising: matching a customer to a profile; selecting an action from a set of actions associated with the profile using a first algorithm wherein the algorithm is based at least in part on a response distribution; updating the first algorithm based on a response forecast; and selecting another action from the set of actions using the updated first algorithm.

Thus, embodiments include methods in which a selection algorithm may select a discrete action from the profile specific action set to present to the customer. The selection algorithm may be based on an optimization considering both business objectives and the set of forecasted response distributions for the actions. For example, one might maximize revenue across a set of actions for a profile subject to the uncertainty (variability) of revenue that each action may generate. As more profiled customers are presented with the actions (STEP 350), the selection algorithm may accrue greater confidence in the distributional form and expected revenue of each action and thus would trend toward selecting the action that has higher

expected revenue. Furthermore, if the market response is changing over time or over successive customer arrivals, the selection algorithm can detect such trending and adapt to it.

The selection algorithm may be based solely on the response distributions or on both response distributions and other business inputs. For example, the selection algorithm may aim to maximize profit (being revenue minus cost) subject to the uncertainties of the revenue payoff of each action (the revenue distributions) where costs vary with successive profiled customers. In this example, the varying costs may also be used in updating the selection algorithm (STEP 330). Thus, the central aspect of the selection algorithm is that dynamically updated response distributions are used in the action selection for learning and reduction of uncertainty, not that any specific optimization algorithm is necessarily utilized. The formulation of such selection algorithms will be obvious to those of ordinary skill in the art.

Because distributions may be used to measure response to a selected action, a selection algorithm can be formulated to achieve two key aims:

1. accruing a quantifiable understanding of market response to the set of actions, and
2. optimizing a business objective such as maximizing revenue (see paragraphs 0037-0039 of the Application).

Santos, however, describes that groups are referred to as customer segments in which each group may be considered to be representative of a surrogate customer having "average" behavior for that segment. See paragraph 0010. Thus, Santos relies on average customer behavior. Embodiments of the claimed invention select actions based in part on a response distribution. Embodiments of the claimed invention can therefore reduce uncertainty associated with achieving a business objective. Relying on average customer behavior as described by Santos does not appear to address reducing such uncertainty. As a result, Santos fails to disclose selecting an action from a set of actions associated with the profile using a first algorithm wherein the algorithm is based at least in part on a response distribution as recited in Claim 1.

Accordingly, withdrawal of the rejection of independent Claim 1 and the Claims dependent there from (Claims 2-11) is respectfully requested. For similar reasons as those set forth above with regard to Claims 1-12, Applicants respectfully request that the rejection of Claims 12-33 be withdrawn.

Rejections under 35 U.S.C. § 103

Claims 1, 12, 23, 28 and 33 stand rejected under 35 U.S.C. § 103 as being obvious over Applicant's admitted prior art. Applicants believe that the remarks regarding Santos apply equally well here. Moreover, in view of the foregoing and the amendment submitted herewith, Applicant's believe that the rejection of Claims 1, 12, 23, 28, and 33 under 35 U.S.C. § 103 is rendered moot. Accordingly, withdrawal of this rejection is respectfully requested.

Request for Information Under 37 CFR 1.105

The Examiner requested certain information that the Examiner has determined is reasonably necessary to complete the background description in the disclosure.

With regard to the request for citations of each publication that is a source used for the description of the prior art in the disclosure (see paragraph 18 of the Office Action), on information and belief, Applicants respectfully submit that no such documents were used as sources for the background. With regard to the request for information concerning prior art searches that might have been performed (see paragraph 19 of the Office Action), on information and belief, Applicants respectfully submit that no prior art search was performed.

With regard to the request for information related to specific improvements of the subject matter in Claims 1-33 as originally submitted, Applicants belief that the request has been rendered moot.

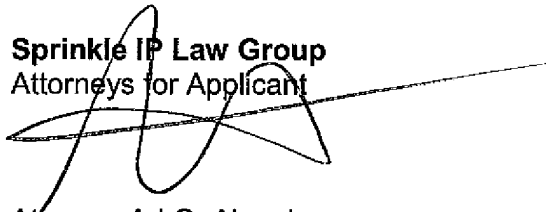
Conclusion

Applicant has now made an earnest attempt to place this case in condition for allowance. Other than as explicitly set forth above, this reply does not include an acquiescence to statements, assertions, assumptions, conclusions, or any combination thereof in the Office Action. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of Claims 1-33. The Examiner is invited to telephone the undersigned at the number listed below for prompt action in the event any issues remain.

The Director of the U.S. Patent and Trademark Office is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 50-3183 of Sprinkle IP Law Group.

Respectfully submitted,

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